

# How California Regulates Herbicides

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# DPR Strategic Plan

## **Mission:**

**We protect human health and the environment by fostering sustainable pest management and regulating pesticides.**

## **Vision:**

**A California where pest management is safe, effective, and sustainable for everyone.**

## **Core Values:**

- **ACCOUNTABILITY**
- **COLLABORATION**
- **INTEGRITY**
- **CONTINUOUS IMPROVEMENT**



# Outline

- **Laws and Regulations**
- **Evaluation and Registration**
- **Post-registration Activities**
- **Other**

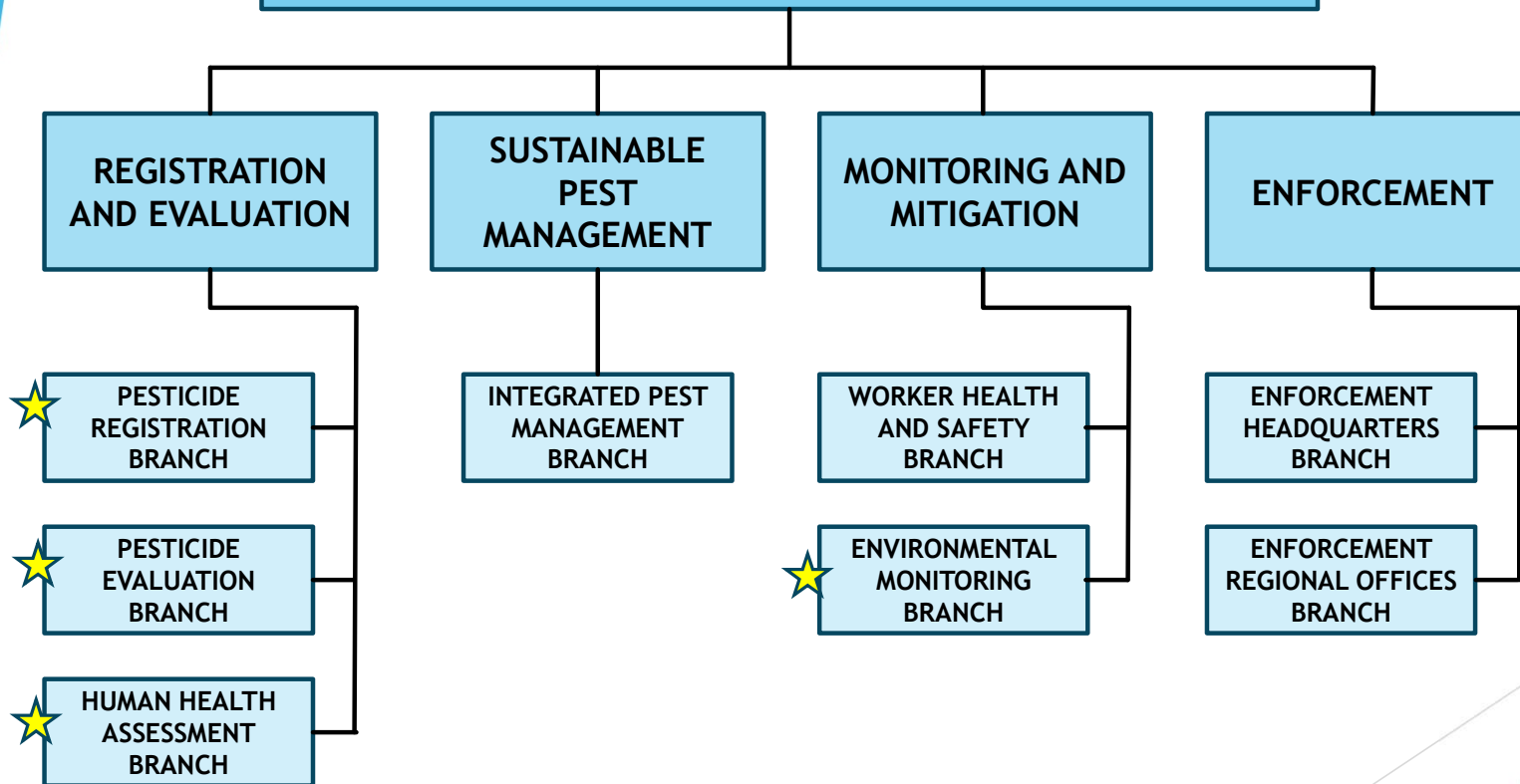
# Federal Regulatory Authority

- **Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA; 1947)**
  - **Title 7 United States Code Chapter 6: Insecticides and Environmental Pesticide Control**
  - **Title 40 Code of Federal Regulations Chapter 1 Subchapter E: Pesticide Programs**

# California Regulatory Authority

- **Food and Agricultural Code**
  - **Division 6: Pest Control Operations**
  - **Division 7: Agricultural Chemicals, Livestock Remedies, and Commercial Feeds**
- **Title 3 California Code of Regulations Division 6: Pesticide and Pest Control Operations**

# PESTICIDE PROGRAM DIVISIONS



# Registration Process

- Herbicides registered by U.S. EPA and DPR
- California registrations are renewed annually
  - Over 13,000 products
  - 1600+ herbicides
- Registration begins with an application which includes:
  - Formulation
  - Label
  - Data
- The Registration Branch reviews the application materials and routes to evaluation stations

The image shows a sample of the 'APPLICATION FOR PESTICIDE REGISTRATION' form from the California Department of Pesticide Regulation. The form is titled 'DPR 1500 (06/17)' and includes fields for 'Reg. No.', 'U.S. Approval', and 'New CA Registration'. It contains several sections for applicant information, including 'Applying Address of Firm', 'Special Address', 'Name of Authorized Representative', 'Telephone Number', 'Fax Number', and 'E-mail Address'. There are also checkboxes for 'New Product', 'Change of Company Name', 'Change of Company Name Only', 'Alternate Formula', 'Renewal Formula', 'Renewal Formula (AC, ID, etc.)', 'Other (attach cover sheet)', and 'Other (attach cover sheet)'. The form also includes a section for 'U.S. EPA Registration Number' and 'Product Comparison Requirements'. At the bottom, there is a section for 'Signature of Authorized Representative' and 'Date Signed'.



# Evaluation

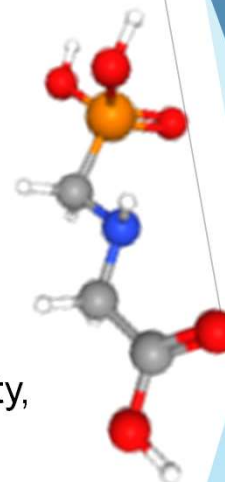
- ▶ Why are herbicides evaluated?
  - ▶ Environmental fate
  - ▶ Human health effects
  - ▶ Efficacy
  - ▶ Nontarget effects on flora and fauna
  - ▶ Potential to contaminate the environment (water and air)



# Evaluation Branch (Chemistry)

## Product Chemistry:

- **Group A – Product Identity and Composition:**
  - Product identity and method of manufacture
    - Label reflects formulation
  - Enforcement method
- **Group B – Physical and Chemical Properties:**
  - Characterization of physical/chemical properties (pH, density, viscosity, etc.)
    - Label has adequate warnings of physical or chemical hazards (compatibility, flammability, storage, disposal)
  - Product and packaging stability



# Evaluation Branch (Chemistry)

What happens to herbicides after application?

➤ **Environmental Fate:**

➤ **Degradation Studies**

- Hydrolysis and photodegradation

➤ **Metabolism Studies**

- Aerobic and anaerobic soil and aquatic systems

➤ **Mobility Studies**

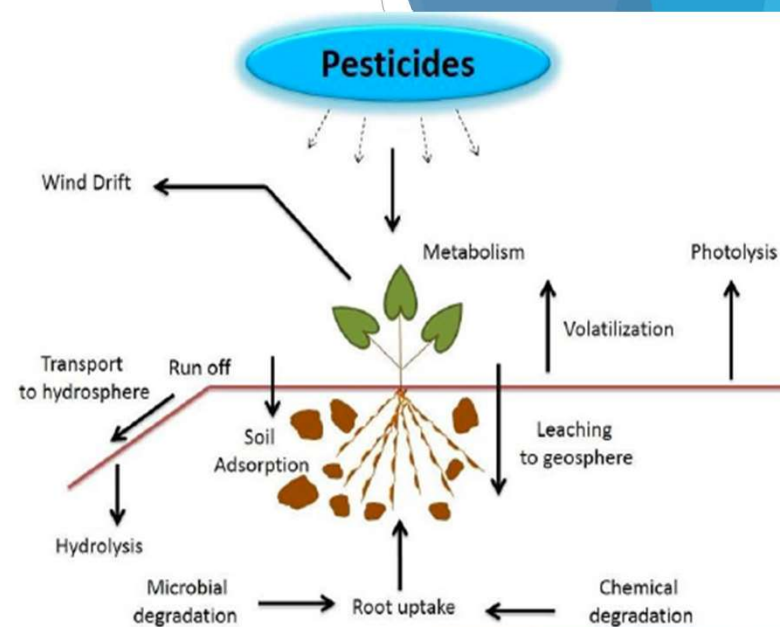
- Soil adsorption/desorption and leaching

➤ **Dissipation Studies**

- Terrestrial and aquatic

➤ Additional requirements from Pesticide Contamination Prevention Act (PCPA)

- Henry's Law Constant
- Evaluating **S**pecific **N**umerical **V**alues and potential for leaching into groundwater
  - Mobility and persistence





## Evaluation Branch (Ecotoxicology)

- ▶ Evaluate nontarget ecological effects to aquatic and terrestrial organisms
  - ▶ Avian and Mammalian Testing
  - ▶ Aquatic Organisms Testing
  - ▶ Insect Pollinator Testing
- ▶ Toxicity endpoints and estimated concentrations used to determine risk
  - ▶ Label mitigation measures



# Evaluation Branch (Plants, Pests, and Disease)

## Efficacy Data Requirements:

### California Code of Regulations Title 6 Section 6186

- ▶ Evaluation of each efficacy claim
- ▶ Data obtained in California or under similar environmental use conditions
- ▶ Shall take into consideration differences in plants, soils, climate conditions, and application techniques
- ▶ Data in the public domain (peer-reviewed scientific manuscripts, etc.) may be acceptable

# Evaluation Branch (Plants, Pests, and Disease)

## Phytotoxicity Data Requirements:

### California Code of Regulations Title 6 Section 6192

- ▶ Any other data determined by the director to be necessary to carry out the provisions of Section 12824 of the FAC
- ▶ Such data may include but is not limited to:
  - (b) phytotoxicity
    - ▶ Target crops
    - ▶ Nontarget aquatic and terrestrial plants
      - ▶ Seedling emergence
      - ▶ Vegetative Vigor
      - ▶ Aquatic Plant Growth







## Human Health Assessment Branch

- ▶ Review toxicology data and assess possible adverse health effects
- ▶ Assess adequacy of product labels
  - ▶ Precautionary statements including signal words, PPE, and first aid statements

## Environmental Monitoring Branch

### Surface Water Program

- New active ingredient labeled for use outdoors

### Groundwater Program

- Depends on SNV results

### Air Program

- Performs buffer zone assessment based on nontarget plant protection data

# Finalizing Registration

- ▶ Data and label are acceptable, scientific evaluation recommendations favorable, and possible adverse effects mitigated
  - ▶ Move to Public Reports
    - ▶ Prepare public report and propose product for registration
    - ▶ 30-day public comment period
  - ▶ Issue notice of final decision and Certificate of Registration (license)



# DPR vs. U.S. EPA

- California grows more than 350 kinds of specialty crops
  - More focus than U.S. EPA on these minor uses
  - Require more care and often harvested by hand
- More emphasis on California climatic and cultural conditions
- California has more residents living near agricultural land
  - Drift considerations
- DPR requires efficacy data to support product claims
  - U.S. EPA may not review efficacy data except for pests of human health and economic importance
- U.S. EPA considers economic benefits in registration decision

# Continuous Evaluation

## Adverse Effects Reporting

- Evidence of an adverse effect or risk to human health/environment during or after the registration process
- Required under FAC 12825.5
- An after the fact check on registration decisions and used to look for patterns of concern

## Reevaluation

- California regulations require DPR investigate any information that a pesticide may have caused, or is likely to cause, a significant adverse environmental impact.
- Registrants given data requirements and timeframes
- Data received and evaluated
- Final determination by Director
  - May suspend or cancel registration if risks are unacceptable or data was not submitted





## Enforcement

- ▶ Headquarters Branch
- ▶ Regional Offices Branch:
  - ▶ Northern (West Sacramento)
  - ▶ Central (Clovis)
  - ▶ Southern (Anaheim)
- ▶ Enforce federal and state laws for proper and safe use of pesticides
  - ▶ Work in conjunction with County Agricultural Commissioners (CACs) and staff
- ▶ Monitoring and enforcement of pesticide residues on produce
- ▶ Product compliance inspections
- ▶ Licensing
- ▶ Label interpretation

# Pesticide Use Reporting

- ▶ FAC Section 14011.5 and CCR Sections 6624 - 6628 require monthly reporting
- ▶ Reporting of all pesticide applications to CACs except for home and garden and most industrial and institutional uses

## Examples:

- ▶ Production of agricultural commodities (except livestock)
- ▶ Landscape maintenance in parks, golf courses, etc.
- ▶ Roadside and railroad rights-of-way
- ▶ Application of restricted materials



# Monitoring

## ▶ Air Protection Program

- ▶ Air Monitoring Network

## ▶ Surface Water Protection Program

- ▶ Surface Water Database (SURF)

## ▶ Groundwater Protection Program

- ▶ Well Inventory Database

## Other Activities

- ▶ Research Authorizations
  - ▶ Provide data under CA-like conditions on a smaller scale
  - ▶ Permit not a registration
  - ▶ May impose site-specific conditions
- ▶ Grant Programs
- ▶ Education and Outreach

The background of the slide is composed of various shades of blue in a geometric, abstract pattern. There are large, overlapping triangular and polygonal shapes in different tones of blue, creating a modern and dynamic visual effect. The text is centered on a darker blue rectangular area.

**THANK YOU**

**QUESTIONS**